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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,902	01/10/2007	Ziduo Liu	68107.000002	8738
58785 7590 11/24/2008 HUNTON & WILLIAMS/NEW YORK INTELLECTUAL PROPERTY DEPT. 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109			EXAMINER WHISENANT, ETHAN C	
			ART UNIT	PAPER NUMBER
			1634	
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			11/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,902

Applicant(s)

LIU ET AL.

Examiner

Ethan Whisenant

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 and 35-59 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 31-33 and 56 is/are allowed.
6) ☒ Claim(s) 1-30, 35-55 and 57-59 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 18 MAY 06 and 15 JUL 08 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

NON-FINAL ACTION

1. The applicant's response (filed 15 JUL 08) to the Office Action has been entered. Following the entry of the claim amendment(s), **Claim(s) 1-33 and 35-59** is/are pending. Rejections and/or objections not reiterated from the previous office action are hereby withdrawn. The following rejections and/or objections are either newly applied or reiterated. They constitute the complete set presently being applied to the instant application.

35 USC § 112- 2nd Paragraph

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

CLAIM REJECTIONS under 35 USC § 112- 2ND PARAGRAPH

3. **Claim(s) 1-30, 35-55 and 57-59** is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because there is no nexus between the preamble and the claim steps. Claim 1 in its preamble direct to a method which is to accomplish a particular goal (i.e. enriching the GC base pair content of a DNA molecule), however, none of the claim steps states that this goal is accomplished. For clarity, claimed methods should recite that the purpose of the method has been attained (i.e. provide a nexus between the preamble and the claim steps). This rejection may be overcome by adding a phrase something like "whereby the GC base pair content of said DNA molecule is enriched" at the end of line 8.

35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that may form the basis for rejections set forth in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claim Rejections under 35 USC § 102/103

7. Claim(s) 19, 24-25, 28-29, 37-54 and 57-59 is/are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wurst et al. [US 6,130,045(2000)].

Claim 19 is drawn to a DNA molecule enriched for GC base pair content prepared by the method of Claim 20. **Claim 24** is drawn to a mutant polypeptide prepared by the method of Claim 20. **Claim 25** is drawn to a mutant A1bD polypeptide prepared by the method of Claim 20 wherein the Ser40 has been replaced by another amino acid residue. **Claim 28** is drawn to a polynucleotide encoding the mutant A1bD polypeptide. **Claim 29** is drawn to an expression vector containing a polynucleotide as recited in Claim 28.

Wurst et al. teach a mutant polypeptide (i.e. a mutant Taq polymerase), as well as, a polynucleotide coding therefor which comprises all of the structural limitations of Claims 19, 24-25 and 28-29 except these authors do not teach that their mutant polypeptide(s)/ polynucleotide coding therefor were prepared by the method recited in Claims 1-14, 20-23 and 35-36. However, it is well established that even though product-by-process claims are limited by and defined by the process, the determination of the patentability of the product is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. "*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

As regards the limitations of Claim 29 note the teaching under "Experimental in Columns 10-12.

Claims 37-51 is drawn to a DNA molecule prepared by the method of Claim 2-14 and 35-36. **Claims 52-54** is drawn to mutant polypeptides prepared by the methods of Claims 21-23. **Claims 57-59** is drawn to mutant A1bD polypeptide prepared

by the methods of Claims 21 or 23 wherein the Ser40 has been replaced by another amino acid residue.

The DNA molecule (i.e. SEQ ID NO. 3) of Wurst et al. meets all of the structural limitations of Claims 37-51. The mutant polypeptide (i.e. SEQ ID NO. 4) of Wurst et al. meets all of the structural limitations of Claims 52-54 and 57-59. Again, please note that patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. "*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

8. Claim(s) 19, 24-25, 28-30, 37-54 and 57-59 is/are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Xie et al. [US 2004/0123349(2004)].

Claim 19 is drawn to a DNA molecule enriched for GC base pair content prepared by the method of Claim 20. **Claim 24** is drawn to a mutant polypeptide prepared by the method of Claim 20. **Claim 25** is drawn to a mutant A1bD polypeptide prepared by the method of Claim 20 wherein the Ser40 has been replaced by another amino acid residue. **Claim 28** is drawn to a polynucleotide encoding the mutant A1bD polypeptide. **Claim 29** is drawn to an expression vector containing a polynucleotide as recited in Claim 28. **Claim 30** is drawn to a transgenic plant containing a polynucleotide according to Claim 28

Xie et al. teach a mutant polypeptide (i.e. a mutant SINAT5), as well as, a polynucleotide coding for said mutant polypeptide, as well as, a transgenic plant comprising said mutant polynucleotide which comprises all of the structural limitations of Claims 19, 24-25 and 28-30 except these authors do not teach that their mutant polypeptide(s)/ polynucleotide coding therefor were prepared by the method recited in Claims 1-14, 20-23 and 35-36. However, it is well established that even though product-by-process claims are limited by and defined by the process, the determination

of the patentability of the product is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. "*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 37-51 is drawn to a DNA molecule prepared by the method of Claim 2-14 and 35-36. **Claims 52-54** is drawn to mutant polypeptides prepared by the methods of Claims 21-23. **Claims 57-59** is drawn to mutant A1bD polypeptide prepared by the methods of Claims 21 or 23 wherein the Ser40 has been replaced by another amino acid residue.

The mutant polynucleotide which codes for (i.e. mutant SINAT5) shown in (i.e. SEQ ID NO. 2) of Xie et al. meets all of the structural limitations of Claims 37-51. The mutant polypeptide (i.e. SEQ ID NO. 2) of Xie et al. meets all of the structural limitations of Claims 52-54 and 57-59. Again, please note that patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. "*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

RESPONSE TO APPLICANT'S AMENDMENT/ ARGUMENTS

10. Applicant's arguments with respect to the claimed invention have been fully and carefully considered but are moot in view of the new ground(s) of rejection. As regards the applicant's traversal that Wurst et al. do not teach the method of Claim 1 and thus the products of Claims 24-25, 28-29, 37-54 and 57-59 are necessarily allowable. The examiner respectfully disagrees. As argued above, the that patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process. *"In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

CONCLUSION

11. Claim(s) 31-33 and 56 is/are allowable while **Claim(s) 1-30, 35-55 and 57-59** is/are rejected and/or objected to for the reason(s) set forth above.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ethan Whisenant, Ph.D. whose telephone number is (571) 272-0754. The examiner can normally be reached Monday-Friday from 8:30AM - 5:30PM EST or any time via voice mail. If repeated attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached at (571) 272-0735.

The Central Fax number for the USPTO is (571) 273-8300. Please note that the faxing of papers must conform with the Notice to Comply published in the Official Gazette, 1096 OG 30 (November 15, 1989).

/Ethan Whisenant/
Primary Examiner
Art Unit 1634